

III. Remarks

Claims 1, 2, 9 and 17-24 are pending in the present application. Claims 1, 2, and 17-20 have been amended; claims 23 and 24 are newly presented.

Claim Rejections - 35 USC § 102

Claims 1, 2 and 17-20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Laquement et al. (U.S. 4,811,696) in view of Haerter (US 3,196,943). Applicant believes the combination of references does not disclose or suggest the crux of the present invention and prays for favorable reconsideration.

Applicant discloses a fluidized bed reactor where the reactor includes a heat exchange apparatus comprising a heat exchanger including a plurality of heat transfer tubes and input and output manifolds [collectors 9 and 10] coupled to the heat exchanger, where the collectors are integrally part of the reactor wall and disposed such that ½ the body of the manifold/collector is outside the reactor and ½ the body of the manifold/collector is inside the reactor. As specified in applicant's claims the main feature of the present invention is that the reactor wall itself is part of the heat exchange system due to the unique positioning of the collection manifolds/collectors.

In his response to the last office action, applicant respectfully directed the Examiner is to the last paragraph of the specification, namely:

Figs. 3 to 8 show embodiments relating to the shape and mounting of the collectors 9 and 10. It is evident that throttle holes, denoted in general by 13, are provided, for example, in the passage walls and also in the reactor wall in order to establish or compensate pressure differences. These holes may vary in size depending on positioning relative to the feed connecting piece and the discharge connecting piece.

(emphasis added)

Applicant again respectfully submits that prior art in combination fails to teach or suggest the combination of openings as currently defined in the claims, and in particular the opening defined along the reactor wall between the distribution or collection chamber halves, in combination with the opening between the tube bundles (2) and the collectors (9 and 10), as most specifically claimed in new claims 23 and 24.

As indicated by the examiner, Laquement et al. (FIG. 2) discloses the basics of a fluidized bed reactor. Laquement et al.'s fluidized bed reactor has a reactor wall with a heat exchange apparatus, comprising a heat exchanger including a plurality of tube packets and a ring pipe coupled to the heat exchanger and mounted directly onto the interior of the reactor wall. Laquement et al.'s ring pipe terminates in a distribution or collection chamber mounted on the reactor wall.

However, Laquement et al. is silent as to the new factors of applicant's invention. Laquement et al. does not disclose 1] collectors positioned as an integral part of the reactor wall where $\frac{1}{2}$ the

body of the manifold/collector is outside the reactor and $\frac{1}{2}$ the body of the manifold/collector is inside the reactor. Furthermore, Laquement et al. does not disclose multiple throttle points.

Nor does Haerter.

As indicated by the examiner, Haerter teaches a heat exchange apparatus comprising a plurality of tube packets with an inlet header and outlet header to feed or remove heat transfer medium from tube packets.

Haerter's header is essentially circular in cross-section, with a baffle plate in the center. Haerter discloses a first internal opening (aperture 27) and a second internal opening located at the connection between tubes 17 and the wall of header 15/21. The first opening (27) limits the flow of fluid by narrowing the inside diameter of the collector [header 15].

But nowhere does Haerter disclose that the header itself is embedded in the wall of a reactor and nowhere does Haerter disclose that the second internal opening located at the connection between tubes 17 and the wall of header 15/21 may have a restriction or flow control placed therein.

So even if it would have been obvious for one of ordinary skill in the art at the time the invention

was made to modify the heat exchange apparatus of Laquement et al. according to the teachings of Haerter, that person of ordinary skill would not have a reactor with a collector embedded in the wall of the reactor and would not have a reactor with a dual baffling arrangement.

As to baffling, a dual baffling arrangement is not structurally or functionally equivalent to a single baffling arrangement, particularly where one of the baffles is located in a location different from that disclosed in either of the references.

The teaching of Haerter quoted by the examiner highlights the difference, “[t]he inlet header **15** is furnished with a distribution baffle plate **25** having a *substantially centrally located* aperture **27** of suitable size and shape.” (column 2, lines 44-46) [emphasis supplied]. Regardless of how it is sized or shaped, it is still a single baffle and it still must be “substantially centrally located”.

Applicant requests reconsideration of this ground for rejection

Claim Rejections - 35 USC § 103(a)

Claims 9, 21 and 22 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Laquement et al. (U.S. 4,811,696) in view of Haerter (US 3,196,943), and further in view of Vancamp et al. (U.S. 3,679,373).

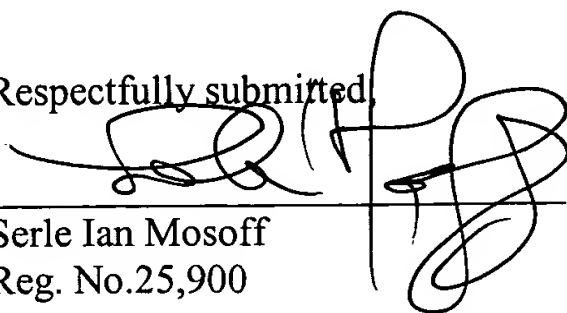
Vancamp et al. simply teaches a process for the oxychlorination of ethylene, wherein the process is conducted within a fluidized bed reactor similar in structure and function to the modified apparatus of Laquement et al.

Since the apparatus of Laquement et al. modified by the teaching of Haerter does not teach or suggest a reactor or heat exchange apparatus having collectors integrated into [not on] the reactor wall or having dual baffling, an oxychlorination process using applicants novel and unobvious apparatus is also novel and unobvious.

Conclusion

Passage of this case to allowance is earnestly solicited. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action. Any fee due with this paper, not fully covered by an enclosed check, may be charged on Deposit Account 50-1290.

Respectfully submitted,


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